LEVEL news

Great Lakes - St. Lawrence River Water Levels

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PDF Format

About LEVEL news

Contents

Seasonal Decline in Levels Stalls during November

Great Lakes Water Level Information

Wind Effects

November Precipitation

November Outflows

Water Levels for the Great Lakes and Montreal Harbour a monthly bulletin from Canadian Hydrographic Service

About the monthly Water Level bulletin

November Precipitation Over the Great Lakes

As a percentage of the long-term November average:

Great Lakes Basin 134%

Lake Erie (including Lake St. Clair) 117%

Lake Superior 81%

Lakes Michigan-Huron 164%

Lake Ontario 146%

Note: These figures are preliminary.

November Outflows

Seasonal Decline in Levels Stalls during November

Periods of mild temperatures, rain, and high winds were experienced throughout much of the Great Lakes basin during November. The month ended with a return to cold, windy weather bringing lake-effect snow to traditional snow belt areas.

Rainfall received during the month helped slow, and in the cases of lakes Michigan-Huron and Ontario reverse, the seasonal decline in the water levels on the Great Lakes. While, water levels on lakes Superior, St. Clair and Erie declined less than expected from October to November, levels on lakes Michigan-Huron and Ontario increased slightly instead of continuing to decline as they usually do at this time of year.

Rainfall combined with a reduction in evaporation due to the mild temperatures resulted in near-record high water supplies to Lakes Michigan-Huron for the month of November. As a result, daily water levels on these lakes increased 7 cm during November. Because water levels decline about 5 cm on average during November, the net result is that water levels moved 12 cm closer to average conditions during the month. At the beginning of December water levels on Lakes Michigan-Huron were 48 cm below average. LEVELnews readers will recall that at the beginning of November these lakes were 60 cm below average. Although the lakes remain well below average, the improvement relative to average conditions is good to see.

Great Lakes Water Level Information

	November Monthly Mean Level		Beginning of December Level	
Lake	Compared to Monthly Average (1918-2002)	Compared to One Year Ago	Compared to Beginning-of-Month Average (1918-2002)	Compared to One Year Ago
Superior	26 cm below	13 cm below	22 cm below	9 cm below
Michigan-Huron	53 cm below	12 cm below	48 cm below	5 cm below
St. Clair	27 cm below	6 cm below	21 cm below	3 cm above

From the Great Lakes

As a percentage of the long-term November average:

Lake Superior	78%
Lake Erie	95%
Lake Huron	86%
Lake Ontario	101%

Note: These figures are preliminary.

Last Issue
Next Issue
Issue Index

Summary information for "LEVEL*news*"

Erie	13 cm below	2 cm below	12 cm below	6 cm above
Ontario	11 cm above	28 cm above	17 cm above	36 cm above

Wind Effects

Autumn often brings storms packing high winds to the Great Lakes region. When strong, sustained winds in one direction over a lake, water levels can rise (set-up) or fall (set-down) significantly in a short period of time. The plots provided show hourly water heights in metres above Chart Datum at two water level gauging stations on Lake Erie. The short-term impact of high winds out of the west on water levels is demonstrated. During three significant November wind events, levels increased rapidly at Port Colborne located at the eastern end of the lake. At the same time, levels fell sharply at Bar Point located at the western end of the lake. Data is unavailable at Bar Point for a few hours on November 13th when levels dropped below the intake for the gauge's stilling well.

Hourly data at Great Lakes water level gauging stations operated by the Canadian Hydrographic Service can be found at their website.

Top of Page
Français | Contact Us | Help | Search | Canada Site
What's New | Topics | Publications | Weather | Home | About Us

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URL: http://www.on.ec.gc.ca/water/level-news/ln200312_e.html